

## CLAIMS

1. Sealing device (1) for a wheel hub group (2) connected to a differential device (3), and provided with a rolling bearing (9), the sealing device (1) being mounted in such a way as to protect the bearing (9) from a lubricating fluid for the lubrication of the differential (3), and comprising a first shield (22) which is integral with an outer race (10) of the bearing (9), a second shield (23) which is integral with an inner race (11) of the bearing (9) and which faces the first shield (22), and a dynamic sealing element (24) which is interposed between the first and second shields (22, 23); the sealing device (1) being characterised by the fact that the second shield (23) is arranged internally to the first shield (22) in relation to the bearing (9), and comprises a support portion (25) which is made of metallic material and which is force fit onto the inner race (11) and an external portion (26) which is provided with a cylindrical encoder (27) which is integral with the support portion (25); the first shield (22) comprising a first cylindrical portion (33) which is made of metallic material and which is force fit onto the outer race (10) in a position which is at least coaxial to the encoder

(27), and which is provided with at least one slit (38) which is suitable for being engaged by a sensor (39) for reading a signal which is generated by the encoder (27) itself.

5           2.     Sealing device according to Claim 1, characterised by the fact that the first shield (22) comprises a second cylindrical portion (34) which is made of metallic material, and which is integral with the first cylindrical portion (33) and which is  
10   radially arranged opposite the encoder (27) in relation to the first cylindrical portion (33) itself.

          3.     Sealing device according to Claim 2, characterised by the fact that the first shield (22)  
15   comprises a lining (41) which is made of rubber material and which is arranged at least outside the first and second cylindrical portions (33, 34) and in such a way as to totally close the slit (38).

          4.     Sealing device according to Claim 3,  
20   characterised by the fact that the said lining (41) comprises a base baffle (46), which closes the said slit (38), and which separates and seals the encoder (27) from the outside of the device (1) itself.

          5.     Sealing device according to Claim 4,  
25   characterised by the fact that the said baffle (46)

is suitable for being placed in contact with a reading surface (39a) of a sensor (39) for monitoring a signal which is generated by the said encoder (27).

6. Sealing device according to Claims 3, 4  
5 or 5, characterised by the fact that the dynamic sealing element (24) is integral with the lining (41) and is also integral with the second cylindrical portion (34).

7. Sealing device according to Claim 6,  
10 characterised by the fact that the second cylindrical portion (34) comprises a support border (40) for the said dynamic sealing element (24); the support border (40) being radially turned towards the inside.

8. Sealing device according to Claim 7,  
15 characterised by the fact that the first cylindrical portion (33) comprises two cylindrical bodies (33a, 33b) which have different diameters from each other, and a connecting annular body (33c) which connects the two cylindrical bodies (33a, 33b); a first  
20 cylindrical body (33a) of the said two cylindrical bodies (33a, 33b) being force fit onto the outer race (10) and defining with the annular body (33c) an edge (37) which is arranged in such a way as to abut the outer race (10).

25 9. Sealing device according to Claim 8,

characterised by the fact that the said lining (41) comprises a static sealing element (47) which is arranged around the said edge (37) in order to create a static seal with a sealing housing (5) which  
5 extends from the differential (3) as far as the wheel hub group (2).

10. Sealing device according to Claim 9, characterised by the fact that the said static sealing element (47) is defined by a rounded edge  
10 with an external diameter which is greater than the diameter of the said first cylindrical body (33a).

11. Sealing device according to Claim 1, characterised by the fact that the support portion (25) comprises an axially external border (32) which  
15 has a reduced diameter and which defines both an axial striker on the said inner race (11), and a static seal on a rolled blocking border (12) of the inner race (11) itself.

12. Sealing device according to Claim 11,  
20 characterised by the fact that the said external support portion (26) comprises a cylindrical wall (28) which is integral with the encoder (27) and which is radially arranged towards the inside in relation to the encoder (27) itself, and a  
25 substantially tapering wall (30) which is integral

with the encoder (27) itself.

13. Sealing device according to any of the preceding Claims, characterised by the fact that it is mounted onto a wheel hub group (2) which is  
5 provided with an internal cylindrical passing housing (7) and closed on an external side by a sealing plug (8); the cylindrical housing (7) being suitable for being engaged in an axially sliding fashion by a terminal portion of an axle shaft (4) which projects  
10 from the said differential (3).